

# Chemical and Hazardous Material Storage

**Storage and Handling of Flammable Liquids: OSHA 29 CFR 1910.106**

**Storage of Compressed Gases: OSHA 29 CFR 1910**

**Communicating Chemical Hazards to Employees: OSHA 29 CFR 1910.1450**

**Hazard Communication Standard: OSHA 29 CFR 1910.1200**

There are many work situations where chemicals are routinely relied upon to get the work done. But just as important as the safe handling of these chemicals, is their safe storage. If not stored properly, chemicals can cause a fire, explosion or personal injury. There are some real and common sense safe storage procedures that should be followed to keep workers and the workplace free of chemical-related accidents.

The most important factor in chemical storage safety is keeping chemicals in their original containers. Next, check that each chemical container has a label. The label is a quick way of determining whether the material is a fire, health or reactivity hazard. Read the chemical's Material Safety Data Sheet (MSDS). The MSDS describes the chemical's properties, hazards, and what to do if there's an accidental spill or exposure. Use the MSDS as a guide for making storage decisions.

Store chemicals in well-ventilated areas, away from direct sunlight or other heat sources, and away from sparks, flames, static electricity or other sources of ignition. Make sure the storage shelving material is acid resistant, secured to a permanent structure, and strong enough to support the weight of the containers. The shelving should be fitted with a raised lip or tilted slightly backward so containers won't slip off the edge. You may choose to color code the containers to correspond to the color on the shelf where it should be stored for quick access and proper storage return. Never store chemicals higher than eye level. If the chemical is accidentally knocked over you could risk being showered with the chemical substance resulting in a burn or possible blindness. For added safety, make sure first aid kits and materials for cleaning spilled chemicals is readily accessible.

Chemicals should be placed so that incompatible substances stored apart. You don't want to store a water reactive chemical next to a sink, oxides next to flammables, acids next to bases or poisons next to a desk. Chemicals should never be stored or refrigerated with food. Chemical containers should not be stored on top of each other or on the floor where they could accidentally be knocked over. Don't casually leave chemical containers wherever you last use them or set

them aside to make room for other work. Take the time to return containers to their proper storage place.

Maintenance is another important factor in safe chemical storage. Someone should be assigned to periodically inventory the chemicals not only to check for proper storage but to also check for damaged or corroded containers, signs of leakage or container pressure buildup. Make sure empty or damaged chemicals are disposed of properly.

Accidents caused by improper chemical storage can be prevented. Read labels, follow MSDS recommendations, and use common sense. Instruct workers on safe chemical handling and enforce safe chemical storage procedures.

# **Safe Chemical Handling**

## ***Safety Training Handout***

### ■ **Hazardous chemicals can cause**

- Headaches, rashes and burns
- Respiratory problems, lung and liver damage, reproductive damage, cancer and even death

### ■ **Chemicals can enter your body by**

- Breathing them through your nose or mouth
- Making contact with your skin or eyes
- Swallowing them when eating or drinking

### ■ **Use Material Safety Data Sheets to get information about**

- Chemical name
- Physical characteristics
- Fire and explosion data
- Dangerous properties
- Precautions for safe handling
- Reactivity data

### ■ **Signs you are being exposed to hazardous chemicals**

- Foul odor
- Metallic taste
- Foreign particles in nose
- Rashes, burns, watery eyes, irritated throat, headache or dizziness

### ■ **If exposure occurs**

- Inhalation – move to fresh air
- Eye or skin contact – flush with water for at least 15 minutes
- Swallowed hazardous chemicals – seek immediate medical assistance

### ■ **If there is a chemical spill or leak**

- Warn others
- Turn off machines and evacuate
- Stay upwind
- Don't attempt to rescue unless trained